

U.S. Serial No. 09/668,788
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LISTING OF THE CLAIMS

Claims 2-4, 7-17, 21-33, 35-36 and 38-44 are cancelled. Claims 1, 34 and 37 have been amended as set forth below.

1. (Currently Amended) A process for the production of a glycosyl diacylglycerol, a sterolglycoside, a glycocerebroside, an alkyl- β -D-glycopyranoside, or a phosphoglycolipid in a cell by the use of a processive lipid glycosyl transferase that successively transfers a hexose residue to a lipid acceptor, comprising the steps of:

transferring a nucleic acid molecule that codes for a protein having the enzymatic activity of a processive ~~diacylglycerol~~lipid glycosyl transferase to a cell, the protein having an amino acid sequence which is identical to the sequence selected from the sequences in the group consisting of SEQ ID NO:2 and SEQ ID NO:4; and

expressing the protein having the enzymatic activity of a processive ~~diacylglycerol~~lipid glycosyl transferase under control of suitable regulatory sequences in the cell to produce a glycosyl diacylglycerol, a sterolglycoside, a glycocerebroside, an alkyl- β -D-glycopyranoside, or a phosphoglycolipid.

2-4 (Cancelled)

5. (Previously Presented) The process according to Claim 1, wherein the glycosyl diacylglycerol, the sterolglycoside, the glycocerebroside, the alkyl- β -D-glycopyranoside, or the phosphoglycolipid is selected from the group consisting of

monoglycosyldiacylglycerol,
diglycosyldiacylglycerol,
triglycosyl diacylglycerol,
tetraglycosyldiacylglycerol,
glycosyl ceramide,
diglycosyl ceramide,
steryl glycoside,
steryl diglycoside,
glycosyl phosphatidylglycerol, and
diglycosyl phosphatidylglycerol.

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6. (Previously Presented) The process according to Claim 1, wherein the glycosyl diacylglycerol, the sterolglycoside, the glycocerebroside, the alkyl- β -D-glycopyranoside, or the phosphoglycolipid is selected from the group consisting of

monoglucosyldiacylglycerol,
diglucosyldiacylglycerol,
triglucosyldiacylglycerol,
tetraglucosyldiacylglycerol,
glucosyl ceramide,
diglucosyl ceramide,
steryl glucoside,
steryl diglucoside,
glucosyl phosphatidylglycerol, and
diglucosylphosphatidylglycerol.

7-17 (Cancelled)

18. (Previously Presented) The process according to Claim 1, wherein the lipid acceptor is a secondary lipid acceptor, and wherein the secondary lipid acceptor is selected from the group consisting of a monohexosyldiacylglycerolipid, a dihexosyldiacylglycerolipid, a trihexosyldiacylglycerolipid, a tetrahexosyldiacylglycerolipid, a glycocerebroside, a dihexosylcerebroside, a sterolglycoside, a steroldiglycoside and a phosphoglycolipid.

19. (Previously Presented) The process according to Claim 1, wherein the nucleic acid molecule codes for a protein having the enzymatic activity of a processive lipid glycosyl transferase that successively transfers glucose to a lipid acceptor.

20. (Previously Presented) The process according to Claim 1, wherein the lipid acceptor is a primary lipid acceptor, and wherein the primary lipid acceptor is diacylglycerol, sterol, phosphatidylglycerol or ceramide.

21-33 (Cancelled)

34. (Currently Amended) The process according to ~~claim 27~~Claim 1, wherein the cell is selected from the group consisting of a plant cell, a yeast cell, and a bacterial cell.

35. (Cancelled)

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36. (Cancelled)

37. (Currently Amended) The process according to Claim ~~36~~1, further comprising recovering the glycosyl diacylglycerol, the sterolglycoside, the glycocerebroside, the alkyl- β -D-glycopyranoside, or the phosphoglycolipid synthesized by the enzymatic activity of the processive lipid glycosyl transferase from the cell.

38-44 (Cancelled)